TCT-837

Everolimus-eluting versus other rapamycin derivatives-eluting stents in patients with coronary artery disease: a meta-analysis of 16 randomized trials

Yao-Jun Zhang[1], Christos Bourantas[2], Shao Liang Chen[3], Javaid Iqbal[4], Takashi Muramatsu[5], Dong Sheng-Jie[6], Bo Xu[7]

[1]Nanjing Medical University, Rotterdam, Rotterdam, [2]Thoraxcenter, Rotterdam, Netherlands, [3]Nanjing First Hospital, Nanjing Medical University, Jiangsu, China, [4]Erasmus Medical Center, Rotterdam, Rotterdam, [5]Thoraxcenter, Erasmus Medical Center, Rotterdam, Netherlands, [6]Soochow University, Suzhou, Jiangsu, [7]Fu Wai Hospital, National Center for Cardiovascular Diseases, China, Beijing, China

Background: EES has been developed in an attempt to improve clinical outcomes. Meanwhile, the other rapamycin derivatives-eluting stents are worldwide used as well.
Methods: We searched Medline, the Cochrane Library and other internet sources, without language or date restrictions for articles comparing clinical outcomes between EES and other derivatives-eluting stents. Safety endpoints were stent thrombosis (ST), mortality, cardiac death, and myocardial infarction (MI). Efficacy endpoints were major adverse cardiac event (MACE), target lesion revascularization (TLR) and target vessel revascularization (TVR).
Results: We identified 16 randomized controlled trials (n=23,481) with a weighted mean follow-up of 18 months. Compared with other rapamycin derivatives-eluting stents, EES was associated with a significant low incidence of definite ST (relative risk [RR]: 0.45, 95% confidence interval [CI]: 0.30-0.69; p<0.001), TLR (RR: 0.87; 95% CI: 0.77-0.99; p=0.03), and a nonsignificant trend towards low rate of definite/probable ST (RR: 0.75; 95% CI: 0.56-1.01; p=0.06). EES had similar rates of mortality (RR: 0.95; 95% CI: 0.82-1.09; p=0.45), MI (RR: 0.95; 95% CI: 0.82-1.10; p=0.43), MACE (RR: 0.94; 95% CI: 0.87-1.02; p=0.35) compared with Non-EES group. Based on the stratified analyses of the included trials, the treatment effect on definite ST was not statistical significance between 2 groups within 1 year follow-up (p=0.07), while EES was related to a significant low rate of definite ST compared with either zotarolimus-eluting stent or sirolimus-eluting stent (p=0.012, p=0.006, respectively).
Conclusions: EES is associated with a significant reduction of definite ST and TLR for treating patients with coronary artery disease, compared with a pooled group of other rapamycin derivatives-eluting stents. Longer term of follow-up are warranted to confirm the safety and efficacy benefits of EES.

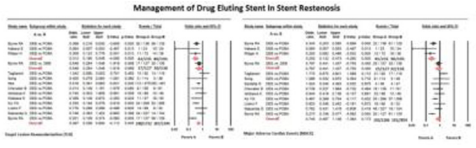
TCT-838

Management of Drug Eluting Stent In-Stent Restenosis: A Systematic Review and Meta-Analysis

Sachin S. Goel[1], Rama Dilip Gajulapalli[2], Ganesh Athappan[3], Supriya Gupta[2], Stephen Ellis[2], E. Murat Tuzcu[4], Samir Kapadia[5]

[1]Cleveland Clinic Foundation, Cleveland, OH, [2]Cleveland Clinic, Cleveland, OH, [3]Metrohealth Medical Center/Case Western Reserve University, Cleveland, OH, [4]Cleveland Clinic Foundation, Cleveland, Ohio, [5]Cleveland Clinic, Cleveland, United States

Background: The optimal treatment of drug eluting stent in-stent restenosis (DES ISR) is unclear. We performed a meta-analysis of published studies to compare the outcomes of treatment of DES ISR using DES, drug eluting balloon (DEB) or balloon angioplasty (BA).
Methods: Eligible studies were identified using MEDLINE search and proceedings of international meetings. Outcomes studied include major adverse cardiac events (MACE), target lesion revascularization (TLR), target vessel revascularization (TVR), myocardial infarction (MI), stent thrombosis (ST) and mortality.
Results: 25 single arm and 13 comparative studies with a total of 7,474 patients with DES ISR were included in this analysis. Follow up ranged from 0.5-3.5 years (mean 1.4 years). TLR rate was significantly lower in the DES (Odds ratio [OR] 0.50, 95% confidence interval [CI] 0.36-0.69) and DEB (OR 0.31, 95% CI 0.18-0.55) groups compared to BA alone. Similarly, TVR rate was significantly lower in the DES (OR 0.55, 95% CI 0.39-0.77) and DEB (OR 0.32, 95% CI 0.18-0.58) groups compared to BA. All other outcomes were similar between the DES/POBA and DEB/POBA comparisons. There was only one study comparing DES with DEB which showed similar outcomes. On subgroup analysis of reference vessel diameter < or > 2.75 mm, TLR was significantly lower in the DES group compared to POBA for small as well as larger vessels. Pooled TLR rate was lowest in the DES group



Conclusions: Treatment of DES ISR with DES or DEB is associated with a reduction in the risk of TLR and TVR compared to BA alone. Randomized trials are needed to compare DES and DEB in the management of DES ISR.

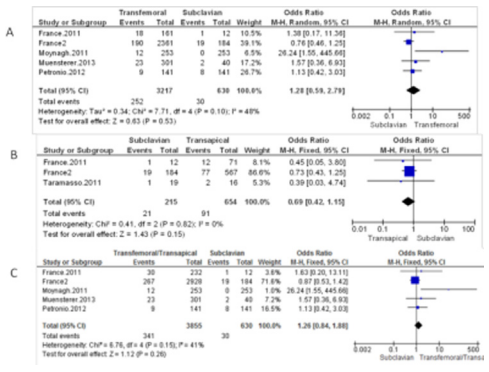
TCT-839

Subclavian Access Safety for TAVR: A Two Steps Meta-Analysis

Daniel Garcia[1], Alexandre M. Benjo[2], Guilherme Nasi[1], Francisco Y. Macedo[3], Emad Aziz[4]

[1]University of Miami, Miami, FL, [2]Columbia University Division of Cardiology, at the St.Lukes-Roosevelt Hospital Center, New York, NY, [3]Baylor College of Medicine, Houston, TX, [4]Columbia College of Physicians- St Luke's Hospital, New York, NY

Background: Trans-aortic valve replacement (TAVR) has been proven a safe alternative for surgery and medical therapy in high risk and;or inoperable patients with aortic stenosis. Transfemoral and transapical accesses were the initially evaluated but the subclavian has emerged as an alternative. As the data regarding the subclavian access safety is still scarce we aimed to compare it to the prior alternatives in a meta-analysis.
Methods: We searched PubMed, EMBASE, and Cochrane databases from 1966 through May 2013 for studies comparing subclavian (SC) vs. transfemoral (TF) and or transapical accesses (TA). We evaluated 30 days mortality, stroke, vascular complications, pacemaker need, and dialysis requirement rates. We analyzed the data with RevMan 5.2 with fixed effect if P>0.1 and I2<40%, and random effect otherwise.
Results: Out of 204 articles, 5 articles presented the studied data and were included in the analysis. The pooled data provided a total of 3855 patients being 3201 TF, 654 TA and 630 SC. As demonstrate in figure 1 SC had 30 days mortality comparable to TF (A), TA (B) and their grouping (C). Similar results were found in stroke (CI 0.42-4.43), vascular complications (CI 0.62-7.25) and pacemaker requirement (CI 0.43-1.36). When compared only to TF the procedure failure and dialysis requirement were again similar (CI) and (CI).



Conclusions: The subclavian access seems to be a safe alternative in TAVR. Larger studies are needed to validate this our findings.

TCT-840

Clinical outcomes of patients treated with Nobori biolimus-eluting stent: meta-analysis of randomized trials

Salvatore Cassese[1], Massimiliano Fusaro[1], Robert Byrne[1], Antoinette de Waha[1], Tomohisa Tada[1], Michael Joner[1], Petra Hoppmann[2], Karl-Ludwig Laugwitz[2], Heribert Schunkert[1], Adnan Kastrati[1]

[1]Deutsches Herzzentrum, Munich, Germany, [2]1. Medizinische Klinik, Klinikum rechts der Isar, Munich, Germany

Background: The Nobori is a new-generation, biodegradable-polymer coated, BES that has recently been investigated in several randomized trials with inconsistent results
Methods: We undertook a meta-analysis of randomized trials investigating Nobori BES versus other DES. Primary efficacy and safety outcomes were target lesion revascularization (TLR) and definite/probable stent thrombosis (ST), respectively. Secondary outcomes were the composite of cardiac death/myocardial infarction (MI)/target vessel revascularization (TVR), MI and death.
Results: A total of 9,114 PCI-patients randomly received Nobori BES (n= 5,080) or other DES (n= 4,034). This latter group comprised patients receiving everolimus- (n= 2,533), sirolimus- (n= 1,376) or paclitaxel-eluting stents (n= 125). Median follow-up was 11 months [interquartile range 9-12]. The Nobori BES versus other DES showed comparable risk of TLR (odds ratio [95% Confidence interval]= 0.91 [0.57–1.46], p= 0.71). There was significant heterogeneity across trials due to significant lower TLR risk with Nobori BES versus paclitaxel-eluting stent (0.32 [0.10–0.98], p= 0.046; p for interaction= 0.009). Nobori BES versus other DES showed comparable risk of definite/probable ST (1.40 [0.66–2.97], p= 0.39), cardiac death/MI/TVR (1.05 [0.88–1.25], p= 0.59), MI (1.13 [0.87–1.48], p= 0.37) and death (1.09 [0.81–1.48], p= 0.56).
Conclusions: Nobori BES has comparable efficacy with other limus-eluting stents and superior efficacy in comparison with paclitaxel-eluting stent at 1-year follow-up. There is no difference in terms of safety profile between these stent platforms.